```
File   8:Ei Compendex(R) 1970-2002/Oct W4
         (c) 2002 Engineering Info. Inc.
File  35:Dissertation Abs Online 1861-2002/Oct
         (c) 2002 ProQuest Info&Learning
File  65:Inside Conferences 1993-2002/Nov W1
         (c) 2002 BLDSC all rts. reserv.
File   2:INSPEC 1969-2002/Nov W1
         (c) 2002 Institution of Electrical Engineers
File 233:Internet & Personal Comp. Abs. 1981-2002/Oct
         (c) 2002 Info. Today Inc.
File  94:JICST-EPlus 1985-2002/Sep W1
         (c)2002 Japan Science and Tech Corp(JST)
File 603:Newspaper Abstracts 1984-1988
         (c)2001 ProQuest Info&Learning
File 483:Newspaper Abs Daily 1986-2002/Nov 05
         (c) 2002 ProQuest Info&Learning
File   6:NTIS 1964-2002/Nov W1
         (c) 2002 NTIS, Intl Cpyrght All Rights Res
File 144:Pascal 1973-2002/Nov W1
         (c) 2002 INIST/CNRS
File 202:Information Science Abs. 1966-2002/Oct 29
         (c) Information Today, Inc
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File  34:SciSearch(R) Cited Ref Sci 1990-2002/Nov W1
         (c) 2002 Inst for Sci Info
File  99:Wilson Appl. Sci & Tech Abs 1983-2002/Sep
         (c) 2002 The HW Wilson Co.
File 583:Gale Group Globalbase(TM) 1986-2002/Nov 05
         (c) 2002 The Gale Group

Set     Items   Description
S1      21194   PHASE(2N)CONJUGAT?
S2   13722901   PROBE? OR PROBING OR INTERROGAT? OR EXPLOR? OR INVESTIGAT?
             OR INSPECT? OR PENETRAT? OR PROD?
S3    2625221   BEAM? OR LASER? OR LIGHT(2N)(PULS? OR MODULAT?) OR MASER? -
             OR QUANTUM(2N)ELECTRONIC? OR OPTICAL(2N)(PUMP? OR GENERAT? OR
             MODULAT? OR OSCILLATOR?) OR IRASER? OR QUANTUM()GENERATOR?
S4      21968   INTRACAVIT? OR INTRA()CAVIT?
S5        144   S1 AND S2 AND S3 AND S4
S6     165801   S2(3N)S3
S7       1009   S1 AND S6
S8        209   S1(5N)S6
S9          9   S8 AND S4
S10        45   S7 AND S4
S11        28   RD (unique items)
```

11/3,K/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05730253 E.I. No: EIP00125436748
Title: Highly efficient phase conjugation **in a laser-injection-seeded solid dye laser**
Author: Watanabe, Hirofumi; Omatsu, Takashige; Tateda, Mitsuhiro
Corporate Source: Chiba Univ, Chiba, Jpn
Conference Title: Conference on Lasers and Electro-Optics (CLEO 2000)
Conference Location: San Francisco, CA, USA Conference Date: 20000507-20000512
E.I. Conference No.: 57598
Source: Pacific Rim Conference on Lasers and Electro-Optics, CLEO - Technical Digest 2000. p 160-161
Publication Year: 2000
CODEN: 002223
Language: English

Title: Highly efficient phase conjugation **in a laser-injection-seeded solid dye laser**
Abstract: This article studied an efficient **phase conjugator** by degenerated four wave mixing in laser injection seeded solid dye laser. Dye laser pumped by the same frequency-doubled Q-switched Nd:YAG laser was used as a **probe** and forward-pump **laser** for four wave mixing. For an efficient **phase conjugation** , the **probe beam** passing through the solid dye was retro-reflected by the mirror which enabled the reflected **probe beam** to overlap spatially the **intra - cavity** counter-propagating pump beams. 3 Refs.
Descriptors: Dye lasers; Optical **phase conjugation** ; Four wave mixing; Polymethyl methacrylates; Pumping (laser); Q switched lasers; Optical properties
Identifiers: **Intra cavity** counter propagating pump beams; **Phase conjugate** reflectivity; Laser injection seeded solid dye laser; Solid dye laser cavity; **Phase conjugator**

11/3,K/2 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05699070 E.I. No: EIP00115396472
Title: Tunable phase conjugation **by degenerate four-wave mixing in a injection-seeded solid dye laser cavity**
Author: Watanabe, Hirofumi; Omatsu, Takashige; Tateda, Mitsuhiro
Corporate Source: Chiba Univ, Chiba, Jpn
Conference Title: 2000 Confernce on Lasers and Electro-Optics Europe (CLEO 2000)
Conference Location: Nice, France Conference Date: 20000910-20000915
E.I. Conference No.: 57529
Source: Conference on Lasers and Electro-Optics Europe - Technical Digest 2000. IEEE, Piscataway, NJ, USA,00TH8505. p 42 CMM3
Publication Year: 2000
CODEN: 85PNA9
Language: English

Title: Tunable phase conjugation **by degenerate four-wave mixing in a injection-seeded solid dye laser cavity**
Abstract: Tunable **phase conjugation** by **intracavity** degenerate four-wave mixing was demonstrated in an injection-seeded solid dye laser. The maximum efficiency was observed at the four-wave mixing laser wavelength of 564 nm. For efficient **phase conjugation** , the **probe beam** passing through the solid dye were reflected by two mirrors, which enable the reflected **probe beam** to overlap the counter propagating pump

beams. 2 Refs.
Descriptors: Dye lasers; Optical **phase conjugation** ; Four wave mixing; Laser resonators; Cavity resonators; Optical pumping; Neodymium lasers
Identifiers: Tunable **phase conjugation** ; Laser cavities; Injection seeded solid dye laser cavities

11/3,K/3 (Item 3 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05306355 E.I. No: EIP99064701947
Title: Single-mode Nd:YAG laser with cavity formed by population gratings
Author: Antipov, Oleg L.; Kuzhelev, Alexander S.; Zinov'ev, Andrey P.; Gavrilov, Andrey V.; Fedin, Alexander. V.; Smetanin, Sergey N.; Basiev, Tasoltan T.
Corporate Source: Russian Acad of Science, Nizhnii Novgorod, Russia
Conference Title: Proceedings of the 1998 Laser Optics '98: Nonlinear and Coherent Optics
Conference Location: St. Petersburg, RUS Conference Date: 19980622-19980626
E.I. Conference No.: 55146
Source: Proceedings of SPIE - The International Society for Optical Engineering v 3684 1999. p 59-63
Publication Year: 1999
CODEN: PSISDG ISSN: 0277-786X
Language: English

...Abstract: periodic Nd:YAG laser with dynamic cavity formed with participation of dynamics holographic gratings in **laser** elements have been **investigated** . A Sagnac interferometer was applied as a laser cavity mirror for angular selection of initial...
...passive Q-switch, we used saturable absorber crystal LiF:F//2** minus , which increased total **intracavity** diffraction efficiency of dynamic gratings completing the cavity. Self-pumped **phase conjugation** in Nd:YAG amplifier and LiF:F//2** minus absorber provided adaptive properties of the ...
...Descriptors: Q switched lasers; Laser pulses; Diffraction gratings; Holography; Interferometers; Mirrors; Light absorption; Optical pumping; Optical **phase conjugation**

11/3,K/4 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04861345 E.I. No: EIP97063696736
Title: High-frequency temporal structure of laser and phase - conjugated **signals at** intracavity **degenerate four-wave mixing of CO2 and CO laser radiation in their inverted medium**
Author: Beairsto, Chris T.; Ionin, Andrei A.; Kotkov, A.A.; Penny, R.; Seleznev, L.; Squires, Stephen M.; Walter, Robert F.
Corporate Source: U.S. Army Applied Technology Directorate, White Sands Mis Rge, NM, USA
Conference Title: Gas and Chemical Lasers and Applications II
Conference Location: San Jose, CA, USA Conference Date: 19970210
E.I. Conference No.: 22883
Source: Proceedings of SPIE - The International Society for Optical Engineering v 2987 1997.. p 166-173
Publication Year: 1997
CODEN: PSISDG ISSN: 0277-786X ISBN: 0-8194-2398-X
Language: English

Title: High-frequency temporal structure of laser and phase - conjugated **signals at** intracavity **degenerate four-wave mixing of CO2 and CO laser**

radiation in their inverted medium
Abstract: The high frequency temporal structure of probe and **phase conjugation** (PC) signals under degenerate four-wave mixing (DFWM) of long pulse carbon-dioxide and carbon...

...time history of PC signal has a complicated behavior and structure differed from that of **probe laser** signal on large (greater than or equal to 100 ns) and small (approximately 10 - 100...
Descriptors: Carbon dioxide lasers; Carbon monoxide; Four wave mixing; Optical **phase conjugation** ; Electron beams; Electric discharges; Diffraction gratings; Laser pulses
Identifiers: **Intracavity** degenerate mixing

11/3,K/5 (Item 5 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03665863 E.I. No: EIP93071024943
Title: Generation of phase conjugate **wave from a visible InGaAlP laser**
Corporate Source: Tokyo Inst of Technology, Yokohama, Jpn
Source: Japanese Journal of Applied Physics, Part 1: Regular Papers & Short Notes & Review Papers v 32 n 3A Mar 1993. p 1107-1111
Publication Year: 1993
CODEN: JAPNDE ISSN: 0021-4922
Language: English

Title: Generation of phase conjugate **wave from a visible InGaAlP laser**
Abstract: This paper presents the first quantitatively measured results of detuning and spatial characteristics of the **phase conjugate** wave which is emitted from a Fabry-Perot cavity-type InGaAlP laser. Bandwidth of a...

...to be due to the relaxation oscillation frequency of the laser. The reflectivity of the **phase conjugate** mirror and the amplification gain were larger than 10 and 100, respectively. By the off-axial injection of the **probe beam** to a broad stripe laser, the emitted **phase conjugate** wave was separated spatially from the pump beam. Non-degenerate four-wave mixing characteristics of...

...1 THz, which was determined by the reciprocal of the half-cycle time of the **intracavity** light-wave. (Author abstract) 10 Refs.
Descriptors: Optical **phase conjugation** ; Optical waveguides; Semiconductor lasers; Semiconducting indium compounds; Semiconducting aluminum compounds; Fabry-Perot interferometers; Cavity resonators...
Identifiers: **Phase conjugate** waves; Fabry Perot cavity type semiconductor lasers; Semiconducting indium gallium aluminum phosphide; Semiconducting aluminum gallium...

11/3,K/6 (Item 6 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

01068871 E.I. Monthly No: EI8108066224 E.I. Yearly No: EI81049842
Title: BISTABILITY AND HYSTERESIS IN PHASE - CONJUGATED **REFLECTIVITY.**
Author: Agrawal, G. P.; Flytzanis, C.
Corporate Source: Quantel, Orsay, Fr
Source: IEEE Journal of Quantum Electronics v QE-17 n 3 Mar 1981 p 374-380
Publication Year: 1981
CODEN: IEJQA7 ISSN: 0018-9197
Language: ENGLISH

Title: BISTABILITY AND HYSTERESIS IN PHASE - CONJUGATED **REFLECTIVITY.**
...Abstract: characteristics is probed through a weak optical field. The nonlinear interaction among the counterpropagating pump **beams** and the **probe beam** generates the **phase - conjugated** beam through **intracavity** degenerate four-wave mixing. It is shown that the **phase - conjugated** reflectivity displays beistability and that hysteresis as the driving field is varied in a continuous...

11/3,K/7 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6630743 INSPEC Abstract Number: A2000-15-4255H-002, B2000-08-4320C-009
Title: Intracavity phase conjugation **of the radiation from a pulsed frequency-selective CO laser**
Author(s): Ionin, A.A.; Kotkov, A.A.; Kurnosov, A.K.; Napartovich, A.; Seleznev, L.
Author Affiliation: P.N. Lebedev Phys. Inst., Acad. of Sci., Moscow, Russia
Journal: Kvantovaya Elektronika, Moskva vol.30, no.4 p.342-8
Publisher: Turpion Ltd.; Kvantovaya Elektronika,
Publication Date: April 2000 Country of Publication: Russia
CODEN: KVEKA3 ISSN: 0368-7147
SICI: 0368-7147(200004)30:4L.342;1-0
Material Identity Number: C314-2000-007
Translated in: Quantum Electronics vol.30, no.4 p.342-8
Publication Date: April 2000 Country of Publication: UK
CODEN: QUELEZ ISSN: 1063-7818
SICI of Translation: 1063-7818(200004)30:4L.342:IPCR;1-4
Language: English
Subfile: A B

Title: Intracavity phase conjugation **of the radiation from a pulsed frequency-selective CO laser**
Abstract: The temporal dynamics and efficiency of **phase - conjugate** reflection in the course of **intracavity** degenerate four-wave mixing of radiation from a pulsed frequency selective electron-beam-sustained CO **laser** was **investigated** experimentally and theoretically. The energy efficiency of the **phase - conjugate** reflection in the experiments reached 1.5-2.5% for a CO laser emitting as...

... Comparison of the experimental and calculated data indicates the dominant role of the resonance amplitude **phase - conjugation** mechanism in the active medium of a CO laser.
...Descriptors: optical **phase conjugation** ;
Identifiers: **intracavity phase conjugation** ; ...

... **phase - conjugate** reflection...

... **intracavity** degenerate four-wave mixing...

...resonance amplitude **phase - conjugation** mechanism

11/3,K/8 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

6301263 INSPEC Abstract Number: A1999-17-4260F-002, B1999-09-4330B-002
Title: Passive Q-switching of a self-pumped phase - conjugate **Nd:YAG loop resonator**
Author(s): Fedin, A.V.; Gavrilov, A.V.; Basiev, T.T.; Antipov, O.L.; Kuzhelev, A.S.; Smetanin, S.N.

Author Affiliation: Kovrov State Technol. Acad., Vladimir, Russia
Journal: Laser Physics vol.9, no.2 p.433-6
Publisher: MAIK Nauka/Interperiodica Publishing,
Publication Date: March-April 1999 Country of Publication: Russia
CODEN: LAPHEJ ISSN: 1054-660X
SICI: 1054-660X(199903/04)9:2L.433:PSSP;1-0
Material Identity Number: C437-1999-003
Language: English
Subfile: A B

Title: Passive Q-switching of a self-pumped phase - conjugate **Nd:YAG loop resonator**

Abstract: Q-switched regimes of a nanosecond pulse-periodic Nd:YAG laser with a self-pumped **phase - conjugate** loop cavity are investigated. A Sagnac interferometer as the laser cavity rare mirror is applied...
... of initial laser radiation. Two flashlamp-pumped Nd:YAG rods placed at the intersection of **laser beams produce** both gain and **laser** output coupling. As a passive Q-switch, a LiF:F/sub 2//sup -/ crystal is used, which also increases diffraction efficiency of **intracavity phase conjugation** . Two schemes with different LiF:F/sub 2//sup -/ crystal positions inside the cavity are...

...Descriptors: optical **phase conjugation** ;
...Identifiers: self-pumped **phase - conjugate** Nd:YAG loop resonator...

...self-pumped **phase - conjugate** loop cavity...

... **intracavity phase conjugation** ;

11/3,K/9 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

5891677 INSPEC Abstract Number: A9810-4260D-007, B9805-4320L-012

Title: Self-consistent spatial mode analysis of self-adaptive laser oscillators

Author(s): Udaiyan, D.; Crofts, G.J.; Omatsu, T.; Damzen, M.J.
Author Affiliation: Blackett Lab., Imperial Coll. of Sci., Technol. & Med., London, UK
Journal: Journal of the Optical Society of America B (Optical Physics) vol.15, no.4 p.1346-52
Publisher: Opt. Soc. America,
Publication Date: April 1998 Country of Publication: USA
CODEN: JOBPDE ISSN: 0740-3224
SICI: 0740-3224(199804)15:4L.1346:SCSM;1-B
Material Identity Number: G704-98004
U.S. Copyright Clearance Center Code: 0740-3224/98/041346-7$10.00
Language: English
Subfile: A B

...Abstract: matrices is used to find the self-consistent fundamental spatial mode solutions of self-adaptive **laser** resonators. The resonators **investigated** consist of a nonlinear medium in a self-intersecting loop geometry together with a feedback output coupler mirror and additional **intracavity** elements. A simplified system without **intracavity** elements is analyzed initially, and an analytic expression for the mode solution is deduced. Addition of an **intracavity** lens is shown to permit enhancement of the quality of the **phase - conjugation** process as well as control of the mode size. The theoretical analysis is extended to...

...Descriptors: optical **phase conjugation** ;
...Identifiers: **intracavity** elements...

... **intracavity** lens...

... **phase - conjugation** process

11/3,K/10 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC

5762550 INSPEC Abstract Number: A9801-4265M-011, B9801-4340-041
Title: High frequency temporal structure of laser and phase conjugated **signals at** intracavity **degenerate four-wave mixing of CO/sub 2/ and CO laser radiation inside their inverted medium**
Author(s): Beairsto, C.; Ionin, A.; Kotkov, A.; Penny, R.; Seleznev, L.; Squires, S.; Walter, R.
Author Affiliation: Dept. of Appl. Technol., White Sands Missile Range, NM, USA
Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA) vol.3092 p.337-40
Publisher: SPIE-Int. Soc. Opt. Eng,
Publication Date: 1997 Country of Publication: USA
CODEN: PSISDG ISSN: 0277-786X
SICI: 0277-786X(1997)3092L.337:HFTS;1-6
Material Identity Number: C574-97194
U.S. Copyright Clearance Center Code: 0277-786X/97/$10.00
Conference Title: XI International Symposium on Gas Flow and Chemical Lasers and High-Power Laser Conference
Conference Sponsor: SPIE; Eng. & Phys. Res. Council; Eur. Office of Aerospace Res. & Dev.; Int. Sci. Found.; Lothian & Edinburgh Enterprise; et al
Conference Date: 25-30 Aug. 1996 Conference Location: Edinburgh, UK
Language: English
Subfile: A B

Title: High frequency temporal structure of laser and phase conjugated **signals at** intracavity **degenerate four-wave mixing of CO/sub 2/ and CO laser radiation inside their inverted...**
Abstract: The high frequency temporal structure of **probe** (**laser**) and **phase conjugation** (PC) signal under **intracavity** degenerate four-wave mixing (DFWM) of long pulse CO/sub 2/ and CO laser radiation...
...Descriptors: optical **phase conjugation**
...Identifiers: **phase conjugated** signals...

... **intracavity** degenerate four-wave mixing...

... **probe laser** ; ...

... **phase conjugation** signal

11/3,K/11 (Item 5 from file: 2)
DIALOG(R)File 2:INSPEC

5692544 INSPEC Abstract Number: A9720-4260F-006, B9710-4330-016
Title: High-frequency temporal structure of laser and phase - conjugated **signals in** intracavity **degenerate four-wave mixing of radiation from electron-beam-controlled discharge CO/sub 2/ and CO lasers in their active media**
Author(s): Beairsto, C.; Walter, R.; Ionin, A.A.; Kotkov, A.A.; Penny, R.; Seleznev, L.A.; Squires, S.
Author Affiliation: US Army Directorate of Appl. Technol., White Sands, NM, USA
Journal: Kvantovaya Elektronika, Moskva vol.24, no.7 p.631-7

Publisher: Turpion Ltd.; Kvantovaya Elektronika,
Publication Date: July 1997 Country of Publication: Russia
CODEN: KVEKA3 ISSN: 0368-7147
SICI: 0368-7147(199707)24:7L.631;1-C
Material Identity Number: C314-97008
Translated in: Quantum Electronics vol.27, no.7 p.614-20
Publication Date: July 1997 Country of Publication: UK
CODEN: QUELEZ ISSN: 1063-7818
SICI of Translation: 1063-7818(199707)27:7L.614:HFTS;1-T
Language: English
Subfile: A B

Title: High-frequency temporal structure of laser and phase - conjugated **signals in** intracavity **degenerate four-wave mixing of radiation from electron-beam-controlled discharge CO/sub 2/ and...**

Abstract: The high-frequency temporal structure of **probe laser** and **phase - conjugated** signals, generated in the course of degenerate four-wave mixing of long pulses from CO...

...plasma mirror) of tau /sub 0.1/~10 ns duration. The temporal dynamics of the **phase - conjugated** signal also had a complex structure, differing from the probe signal structure over longer (in...

...and small-scale diffraction gratings, and of the temporal synchronism on the dynamics of the **phase - conjugated** signal were considered.

...Descriptors: optical **phase conjugation**
...Identifiers: **phase - conjugated** signals...

... **intracavity** degenerate four-wave mixing

11/3,K/12 (Item 6 from file: 2)
DIALOG(R)File 2:INSPEC

5191026 INSPEC Abstract Number: A9606-4260B-008, B9604-4320G-005
Title: Intracavity **adaptive optics for a powerful Nd:YAG laser**
Author(s): Chetkin, S.A.; Vdovin, G.V.; Ueda, K.-I.
Author Affiliation: Inst. of Gen. Phys., Acad. of Sci., Moscow, Russia
Journal: Laser Physics vol.5, no.6 p.1189-98
Publisher: MAIK Nauka/Interperiodica Publishing,
Publication Date: Nov.-Dec. 1995 Country of Publication: Russia
CODEN: LAPHEJ ISSN: 1054-660X
SICI: 1054-660X(199511/12)5:6L.1189:IAOP;1-8
Material Identity Number: C437-96001
Language: English
Subfile: A B

Title: Intracavity **adaptive optics for a powerful Nd:YAG laser**

...Abstract: important factor that limits both stability widths of a source and constancy of the related **beam** parameter **product** . Due to its radial temperature profile, the laser rod acts as a thick lens whose...

... relatively insensitive to variations of the dioptric power. Unfortunately, such resonators have some restrictions. The **intracavity** active-optic technology is able to continue process in the development of high-power solid...

... continuous adjustments of the resonator configuration with corrective optical elements. There are two ways that **intracavity** adaptive-optic technology can compensate for the harmful influence of a thermal lens (TL) on...

... quality. The first one corresponds to the TL fluence compensation by means of implementing a **phase - conjugation** control. This technology has been used with a solid-state laser plane-parallel resonator. It...
...Descriptors: optical **phase conjugation** ;
Identifiers: **intracavity** adaptive optics...

...related **beam** parameter **product** ; ...

... **intracavity** active-optic technology...

... **phase - conjugation** control

11/3,K/13 (Item 7 from file: 2)
DIALOG(R)File 2:INSPEC

4755611 INSPEC Abstract Number: A9420-4265F-004, B9410-4340-082
Title: Active medium of molecular CO/sub 2/ and CO lasers as a nonlinear component of a phase - conjugating **mirror**
Author(s): Afanas'ev, L.A.; Ionin, A.A.; Kiselev, E.A.; Klimachev, Yu.M.; Kotkov, A.A.; Sinitsyn, D.V.
Author Affiliation: P.N. Lebedev Phys. Inst., Acad. of Sci., Moscow, Russia
Journal: Kvantovaya Elektronika, Moskva vol.24, no.6 p.557-60
Publication Date: June 1994 Country of Publication: Russia
CODEN: KVEKA3 ISSN: 0368-7147
Translated in: Quantum Electronics vol.24, no.6 p.513-16
Publication Date: June 1994 Country of Publication: UK
CODEN: QUELEZ ISSN: 1063-7818
Language: English
Subfile: A B

...**Title: medium of molecular CO/sub 2/ and CO lasers as a nonlinear component of a** phase - conjugating **mirror**
...Abstract: 3/ mu s) pulses emitted by electron-beam-controlled-discharg e CO/sub 2/ and CO **lasers** . Linearly polarised **probe** radiation from a CO/sub 2/ (CO) laser was directed into the **intracavity** inverted medium of the laser itself. The radiation reflected back by the active medium was recorded in the near-field and far-field zones. **Phase conjugation** was confirmed by reconstruction of the spatial pattern of the radiation field in the near...

... the angular divergence of the radiation in the far-field zone. The energy coefficient representing **phase conjugation** by reflection reached 2% for the CO/sub 2/ laser and 0.2% for the CO laser. The time dependence of the **phase - conjugation** power coefficient was analysed.
...Descriptors: optical **phase conjugation**
Identifiers: **intracavity** inverted medium...

... **phase - conjugating** mirror...

... **phase - conjugation** power coefficient

11/3,K/14 (Item 8 from file: 2)
DIALOG(R)File 2:INSPEC

4413641 INSPEC Abstract Number: A9313-4265F-007, B9307-4320J-017
Title: Generation of phase conjugate **wave from a visible InGaAlP laser**
Author(s): Awaji, Y.; Sayama, S.; Suzuki, H.; Ohtsu, M.; Teramachi, Y.
Author Affiliation: Interdisciplinary Graduate Sch. of Sci. & Eng., Tokyo Inst. of Technol., Yokohama, Japan
Journal: Japanese Journal of Applied Physics, Part 1 (Regular Papers &

Short Notes) vol.32, no.3A p.1107-11
Publication Date: March 1993 Country of Publication: Japan
CODEN: JAPNDE ISSN: 0021-4922
Language: English
Subfile: A B

Title: Generation of phase conjugate **wave from a visible InGaAlP laser**
Abstract: This paper presents the first quantitatively measured results of detuning and spatial characteristics of the **phase conjugate** wave which is emitted from a Fabry-Perot cavity-type InGaAlP laser. Bandwidth of a...

... to be due to the relaxation oscillation frequency of the laser. The reflectivity of the **phase conjugate** mirror and the amplification gain were larger than 10 and 100, respectively. By the off-axial injection of the **probe beam** to a broad stripe laser, the emitted **phase conjugate** wave was separated spatially from the pump beam. Non-degenerate four-wave mixing characteristics of...

... 1 THz, which was determined by the reciprocal of the half-cycle time of the **intracavity** light-wave.
...Descriptors: optical **phase conjugation** ;
...Identifiers: **phase conjugate** wave...

... **phase conjugate** mirror

11/3,K/15 (Item 9 from file: 2)
DIALOG(R)File 2:INSPEC

04247080 INSPEC Abstract Number: A9221-4255B-004
Title: Instability and chaos in a CO/sub 2/-like laser with intracavity **parametric amplification**
Author(s): Dutta Gupta, S.; Pande, M.B.
Author Affiliation: Sch. of Phys., Hyderabad Univ., India
Journal: Journal of Modern Optics vol.39, no.8 p.1643-50
Publication Date: Aug. 1992 Country of Publication: UK
CODEN: JMOPEW ISSN: 0950-0340
U.S. Copyright Clearance Center Code: 0950-0340/92/$3.00
Language: English
Subfile: A

Title: Instability and chaos in a CO/sub 2/-like laser with intracavity **parametric amplification**
...Abstract: sub 2/-like laser system due to the presence of a parametric amplifier in the **laser** cavity are **investigated** . The equations of motion for the electric field and the population inversion are studied and...

... similar behaviour is observed in the Lorenz model with a parametric amplifier or with a **phase conjugate** mirror.
...Identifiers: **intracavity** parametric amplification...
... **phase conjugate** mirror

11/3,K/16 (Item 10 from file: 2)
DIALOG(R)File 2:INSPEC

03710527 INSPEC Abstract Number: A90124155
Title: Chaos in photorefractive four-wave mixing with a single grating and a single interaction region
Author(s): Krolikowski, W.; Belic, M.R.; Cronin-Golomb, M.; Bledowski, A.
Author Affiliation: Electroopt. Technol. Center, Tufts Univ., Medford, MA, USA

Journal: Journal of the Optical Society of America B (Optical Physics)
vol.7, no.7 p.1204-9
Publication Date: July 1990 Country of Publication: USA
CODEN: JOBPDE ISSN: 0740-3224
U.S. Copyright Clearance Center Code: 0740-3224/90/071204-06$02.00
Language: English
Subfile: A

...Abstract: chaos. In this model there is a single (transmission) grating and no external or internal (**intracavity**) feedback. The intensity of the **phase - conjugate** wave is found to exhibit a period-doubling route to chaos on variation of the intensity of the **probe beam** and the linear absorption coefficient. The crucial elements in obtaining chaotic behavior are operation above...
... of an external electric field, which causes a shift in the optical frequency of the **phase - conjugate** wave.
...Descriptors: optical **phase conjugation** ;
...Identifiers: **phase - conjugate** wave...

... **probe beam** ;

11/3,K/17 (Item 11 from file: 2)
DIALOG(R)File 2:INSPEC

03251832 INSPEC Abstract Number: A88139017
Title: Theory of intracavity **-pumped photorefractive** phase - conjugate **mirror**
Author(s): Yahalom, R.; Yariv, A.
Author Affiliation: Thomas J. Watson, Jr. Lab. of Appl. Phys., California Inst. of Technol., Pasadena, CA, USA
Journal: Journal of the Optical Society of America B (Optical Physics)
vol.5, no.8 p.1783-7
Publication Date: Aug. 1988 Country of Publication: USA
CODEN: JOBPDE ISSN: 0740-3224
U.S. Copyright Clearance Center Code: 0740-3224/88/081783-05$02.00
Language: English
Subfile: A

Title: Theory of intracavity **-pumped photorefractive** phase - conjugate **mirror**
Abstract: The authors present a new type of **phase - conjugate** mirror that is based on an externally driven Fabry-Perot interferometer with **intracavity** -pumped photorefractive material, which is **probed** by the signal **beam** . It is shown theoretically that such a configuration leads to multivalued solutions and possibly to...
... This configuration also permits optical control of the resonator output and electrical control of the **phase - conjugate** reflectivity.
...Descriptors: optical **phase conjugation** ;
Identifiers: **intracavity** -pumped photorefractive **phase - conjugate** mirror...

... **intracavity** -pumped photorefractive material...

... **phase - conjugate** reflectivity

11/3,K/18 (Item 12 from file: 2)
DIALOG(R)File 2:INSPEC

02936964 INSPEC Abstract Number: A87090723, B87046983, C87047118
Title: Optical logic functions using nearly degenerate four-wave mixing in laser diodes

Author(s): Thedrez, B.; Nakajima, H.; Frey, R.
Author Affiliation: Groupe Opt. des Materiaux, Ecole Nat. Superieure des Telecommun., Paris, France
Journal: Proceedings of the SPIE - The International Society for Optical Engineering vol.700 p.259-64
Publication Date: 1986 Country of Publication: USA
CODEN: PSISDG ISSN: 0277-786X
Conference Title: 1986 International Optical Computing Conference
Conference Sponsor: SPIE; OSA; IEEE; Int. Comm. Opt
Conference Date: 6-11 July 1986 Conference Location: Jerusalem, Israel
Language: English
Subfile: A B C

...Abstract: of an external pump signal. The conjugate frequency omega + delta omega is then obtained in **intracavity** nearly-degenerate four-wave mixing when a **probe beam** of frequency omega - delta omega is injected through the laser diode colinearly with the pump...
...Descriptors: optical **phase conjugation** ;

11/3,K/19 (Item 13 from file: 2)
DIALOG(R)File 2:INSPEC

02886252 INSPEC Abstract Number: A87062789, B87033328
Title: Bistability in intracavity **resonant degenerate 4-wave mixing in Na vapor**
Author(s): Lange, W.; Koster, E.; Mlynek, J.
Author Affiliation: Inst. fur Quantenopt., Hannover Univ., West Germany
Conference Title: Optical Bistability III. Proceedings of the Topical Meeting p.252-5
Editor(s): Gibbs, H.M.; Mandel, P.; Peyghambarian, N.; Smith, S.D.
Publisher: Springer-Verlag, Berlin, West Germany
Publication Date: 1986 Country of Publication: West Germany xiv+364 pp.
ISBN: 3 540 16512 6
Conference Date: 2-4 Dec. 1985 Conference Location: Tucson, AZ, USA
Language: English
Subfile: A B

Title: Bistability in intracavity **resonant degenerate 4-wave mixing in Na vapor**
Abstract: Reports on more detailed studies of **intracavity phase conjugation** through resonant DFWM; the nonlinear medium consisted of sodium atoms in a buffer gas (typically 170 hPa of argon). In the **investigations** reported, the dye **laser** acting as a light source was tuned to the D/sub 1/-line with accuracy...
...Descriptors: optical **phase conjugation** ;
...Identifiers: **intracavity** resonant degenerate four wave mixing...

... **intracavity phase conjugation** ;

11/3,K/20 (Item 14 from file: 2)
DIALOG(R)File 2:INSPEC

02587542 INSPEC Abstract Number: A86014949, B86009826
Title: Intracavity **nearly degenerate four-wave mixing in a (GaAl)As semiconductor laser**
Author(s): Nakajima, H.; Frey, R.
Author Affiliation: Ecole Nat. Superieure des Telecommun., Paris, France

Journal: Applied Physics Letters vol.47, no.8 p.769-71
Publication Date: 15 Oct. 1985 Country of Publication: USA

CODEN: APPLAB ISSN: 0003-6951
U.S. Copyright Clearance Center Code: 0003-6951/85/200769-03$01.00
Language: English
Subfile: A B

Title: Intracavity **nearly degenerate four-wave mixing in a (GaAl)As semiconductor laser**
Abstract: **Intracavity** nearly degenerate four-wave mixing has been demonstrated by injecting a low intensity **probe beam** of frequency omega - delta omega inside a (GaAl)As semiconductor laser operating above threshold at...
...Descriptors: optical **phase conjugation** ;
...Identifiers: **intracavity** ;

11/3,K/21 (Item 15 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2002 Institution of Electrical Engineers. All rts. reserv.

01558765 INSPEC Abstract Number: A80078894, B80040497
Title: Intracavity **techniques for high reflectivity** phase conjugation **at 10 mu m in germanium and inverted CO/sub 2/**
Author(s): Feldman, B.J.; Fisher, R.A.; Bergmann, E.E.; Tercovich, R.G.; Sena, F.C.; Bigio, I.J.
Author Affiliation: Los Alamos Sci. Lab., Univ. of California, Los Alamos, NM, USA
Journal: Proceedings of the Society of Photo-Optical Instrumentation Engineers vol.190 p.412
Publication Date: 1979 Country of Publication: USA
CODEN: SPIECJ ISSN: 0361-0748
Conference Title: Proceedings of the Los Alamos Conference on Optics '79
Conference Sponsor: Los Alamos Sci. Lab
Conference Date: 23-25 May 1979 Conference Location: Los Alamos, NM, USA
Language: English
Subfile: A B

Title: Intracavity **techniques for high reflectivity** phase conjugation **at 10 mu m in germanium and inverted CO/sub 2/**
Abstract: Summary form only given. The authors have generated **phase - conjugate** 10 mu m reflection from the grating established with counter propagated waves in both Ge...

... an added bonus, when working with the nonlinearity of a partially saturated gain medium, the **probe beam** is amplified through 'unused' gain volume on its way to the interaction region, giving rise...
...Descriptors: optical **phase conjugation** ;
Identifiers: high reflectivity **phase conjugation** ; ...

... **intracavity** techniques

11/3,K/22 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS
(c) 2002 NTIS, Intl Cpyrght All Rights Res. All rts. reserv.

1478881 NTIS Accession Number: AD-A214 643/9
Nonlinear Optics Technology. Phase 2. Area 1. Four Wave Mixing Technology. Area 2. Phase Conjugated **Solid State Laser Technology**
(Final rept. Sep 86-Jan 88)
Brock, J. ; Caponi, M. ; Frantz, L. ; Harpole, G. ; Hoefer, C.
TRW Space and Technology Group, Redondo Beach, CA.
Corp. Source Codes: 077450000; 412875
15 Jan 88 266p
Languages: English

Journal Announcement: GRAI9006
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A12/MF A02

Nonlinear Optics Technology. Phase 2. Area 1. Four Wave Mixing Technology. Area 2. Phase Conjugated **Solid State Laser Technology**
Four wave mixing (FWM) **phase conjugation** was investigated in materials that can operate at diode **laser** wavelengths. **Investigated** were atomic cesium vapor, bulk GaAs, multiquantum well (MQW) GaAs/AlGaAs, and **intracavity** FWM in diode laser waveguides operating above threshold. Conjugate reflectivities up to 154% were observed...

... the 852 nm hyperfine transitions. Self focusing and angular response were also investigated. Backward FWM **phase conjugation** at room temperature was demonstrated in bulk GaAs and MQW GaAs/AlGaAs for the first ...

... to determine minimum input conditions. A ring oscillator, conjugated power amplifier was constructed and tested. **Phase conjugated** doubling to **produce** high **beam** quality of the second harmonic when there are aberrations in the doubling medium was demonstrated...
Identifiers: Four Wave Mixing; *Nonlinear Optics; **Phase Conjugation** ; Quantum Wells; MQW(Multiquantum Wells); NTISDODXA

11/3,K/23 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

15125915 PASCAL No.: 01-0288380
250-W average-power Nd : YAG laser with self-adaptive cavity completed by dynamic refractive-index gratings
ANTIPOV Oleg L; CHAUSOV Dmitry V; KUZHELEV Alexander S; VOROB'EV Vladimir A; ZINOVIEV Andrey P
Institute of Applied Physics of the Russian Academy of Science, Nizhny Novgorod, Russia
Journal: IEEE journal of quantum electronics, 2001, 37 (5) 716-724
Language: English

... refractive index gratings which accompany population gratings induced in Nd: YAG laser crystals by generating **beams** themselves is **investigated** numerically and experimentally. The role of different noise sources at the initial stage of nonlinear cavity formation is studied. The adaptation of the cavity formed by nonlinear dynamic mirrors to **intracavity** distortions is demonstrated. The generation of beams with average power up to 250 W, near...

...English Descriptors: Theoretical study; Numerical method; Experimental study; Laser cavity resonators; Holographic gratings; Dynamic hologram; Nonlinear optics; **Phase conjugation** ; High-power lasers; Neodymium lasers; YAG laser

11/3,K/24 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

14745654 PASCAL No.: 00-0423192
Intracavity phase conjugation **of the radiation from a pulsed frequency-selective CO laser**

LONIN A A; KOTKOV A A; KURNOSOV A K; NAPARTOVICH A P; SELEZNEV L V
P N Lebedev Physics Institute, Russian Academy of Sciences, Leninskii prospekt 53, 117924 Moscow, Russia; Troitsk Institute of Innovative and Fusion Research (State Scientific Centre of the Russian Federation), 142092 Troitsk, Moscow province, Russia
Journal: Quantum electronics : (Woodbury), 2000, 30 (4) 342-348
Language: English

Intracavity phase conjugation **of the radiation from a pulsed frequency-selective CO laser**
The temporal dynamics and efficiency of **phase - conjugate** reflection in the course of **intracavity** degenerate four-wave mixing of radiation from a pulsed frequency-selective electron-beam-sustained CO **laser** was **investigated** experimentally and theoretically. The energy efficiency of the **phase - conjugate** reflection in the experiments reached 1.5-2.5% for a CO laser emitting as...
... Comparison of the experimental and calculated data indicates the dominant role of the resonance amplitude **phase - conjugation** mechanism in the active medium of a CO laser.

...English Descriptors: Theoretical study; Gas lasers; Carbon monoxide lasers; Electron beam pumping; Nonlinear optics; Four-wave mixing; **Intracavity ; Phase conjugation**

...French Descriptors: Etude theorique; Laser gaz; Laser CO; Pompage faisceau electronique; Optique non lineaire; Melange 4 ondes; **Intracavite** ; Conjugaison phase; Melange 4 ondes degenere; 4265H; 4255L

11/3,K/25 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.

03153373 Genuine Article#: NK974 No. References: 89
Title: TERAWATT TO PETAWATT SUBPICOSECOND LASERS
Author(s): PERRY MD; MOUROU G
Corporate Source: LAWRENCE LIVERMORE NATL LAB,LASER PROGRAM,POB 808,L-493/LIVERMORE//CA/94551; UNIV MICHIGAN,CTR ULTRAFAST SCI/ANN ARBOR//MI/48109
Journal: SCIENCE, 1994, V264, N5161 (MAY 13), P917-924
ISSN: 0036-8075
Language: ENGLISH Document Type: ARTICLE (Abstract Available)

...Abstract: the development of small-scale terawatt and now even petawatt (1000-terawatt) laser systems. The **laser** technology used to **produce** these intense pulses and examples of new phenomena resulting from the application of these systems...
...Research Fronts: PUMPED ND-GLASS REGENERATIVE AMPLIFIER)
92-0122 001 (DEGENERATE 4-WAVE-MIXING; STIMULATED BRILLOUIN-SCATTERING **PHASE CONJUGATION** ; OH RADICAL DISTRIBUTION)
92-4856 001 (FEMTOSECOND PASSIVELY MODE-LOCKED TI-SAPPHIRE LASER; ULTRASHORT PULSE GENERATION; 3RD-ORDER **INTRACAVITY** DISPERSION)
92-8172 001 (ULTRASHORT PULSE GENERATION; NONLINEAR DISPERSIVE FIBERS; QUANTUM-WELL GAAS/ALGAAS WAVE...

11/3,K/26 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.

02728102 Genuine Article#: LZ008 No. References: 26
Title: NEARLY DEGENERATE 4-WAVE-MIXING IN DISTRIBUTED-FEEDBACK SEMICONDUCTOR-LASERS OPERATING ABOVE-THRESHOLD

Author(s): MECOZZI A; DOTTAVI A; HUI RQ
Corporate Source: FDN UGO BORDONI/I-00142 ROME//ITALY/
Journal: IEEE JOURNAL OF QUANTUM ELECTRONICS, 1993, V29, N6 (JUN), P 1477-1487
ISSN: 0018-9197
Language: ENGLISH Document Type: ARTICLE (Abstract Available)

Abstract: Nearly degenerate four-wave mixing in distributed feedback semiconductor **lasers** above threshold is **investigated** theoretically and experimentally. The experimental results reveal an almost symmetric amplification of probe and conjugate...
...Identifiers--GAIN SATURATION; NONLINEAR GAIN; DIODE-LASERS; AMPLIFIERS; WAVE; **INTRACAVITY**; BANDWIDTH; DYNAMICS; LOCKING
...Research Fronts: OF MODE HOPPING NOISE)
91-0797 001 (PHOTOREFRACTIVE BATIO3 CRYSTAL; COUPLING EFFICIENCY FOR THE DOUBLE **PHASE - CONJUGATE** MIRROR; EFFECT OF SHALLOW TRAPS)
91-2825 001 (NONLINEAR OPTICAL MEDIA; LIGHT WAVES INTERACT; ULTRASHORT ...

11/3,K/27 (Item 3 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

01878512 Genuine Article#: JH794 No. References: 7
Title: INSTABILITY AND CHAOS IN A CO-2-LIKE LASER WITH INTRACAVITY **PARAMETRIC AMPLIFICATION**
Author(s): GUPTA SD; PANDE MB
Corporate Source: UNIV HYDERABAD,SCH PHYS/HYDERABAD 500134/ANDHRAPRADESH/INDIA/
Journal: JOURNAL OF MODERN OPTICS, 1992, V39, N8 (AUG), P1643-1650
Language: ENGLISH Document Type: ARTICLE (Abstract Available)

Title: INSTABILITY AND CHAOS IN A CO-2-LIKE LASER WITH INTRACAVITY **PARAMETRIC AMPLIFICATION**
...Abstract: modulated CO2-like laser system due to the presence of a parametric amplifier in the **laser** cavity are **investigated** . The equations of motion for the electric field and the population inversion are studied and...

...similar behaviour is observed in the Lorenz model with a parametric amplifier or with a **phase conjugate** mirror.

11/3,K/28 (Item 1 from file: 99)
DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs

1156528 H.W. WILSON RECORD NUMBER: BAST94025112
Analysis of a ring-laser gyroscope with intracavity phase - conjugate **coupling**
Dennis, Michael L; Diels, Jean-Claude M
Applied Optics v. 33 (Mar. 20 '94) p. 1659-72
DOCUMENT TYPE: Feature Article ISSN: 0003-6935

Analysis of a ring-laser gyroscope with intracavity phase - conjugate **coupling**

ABSTRACT: The authors analytically and numerically **investigate** a ring-**laser** gyroscope in which the opposite modes are coupled by **intracavity** 4-wave mixing. It is demonstrated that cross-saturation-induced mode extinction is mitigated by...

...a bias beat frequency that can potentially be utilized as an all-optical dither. The **phase conjugation** is demonstrated to influence the lock-in

threshold in an indirect manner only. The results...